DEFENSE INFORMATION SYSTEMS AGENCY
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IN REPLY REFER TO: Joint Interoperability Test Command (JTE) **2 Jan 13**

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Extension of the Special Interoperability Test Certification of the Avaya Aura S8800 and Hewlett Packard (HP) DL-360 G7 with Release (Rel.) Communication Manager (CM) 6.0.1 (00.1.510.1 Service Pack 19391)

References: (a) DoD Directive 4630.05, "Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)," 5 May 2004
(b) CJCSI 6212.01E, "Interoperability and Supportability of Information Technology and National Security Systems," 15 December 2008
(c) through (j), see Enclosure

1. References (a) and (b) establish the Joint Interoperability Test Command (JITC), as the responsible organization for interoperability test certification.

2. The Avaya Aura S8800 and HP DL-360 G7 servers with Release (Rel.) Communication Manager (CM) 6.0.1 (00.1.510.1 Service Pack 19391), hereinafter referred to as the System Under Test (SUT) was originally certified as a Local Session Controller (LSC) (TN 1009101) and a Small End Office (SMEO) (TN 1020101), Reference (c). The vendor submitted Desktop Reviews (DTR) to include the Avaya Aura® Application Enablement (AE) Services (Large System) Release 6.2. JITC conducted testing using product requirements derived from the Unified Capabilities Requirements (UCR), Reference (d) – (f), and test procedures, Reference (g). The SUT's certification status will be evaluated during operational deployment. Any new discrepancy noted in the operational environment will be evaluated for impact on the existing certification. These discrepancies will be adjudicated to the satisfaction of Defense Information Systems Agency (DISA) via vendor Plan of Actions & Milestones that address all new critical discrepancies within 120 days of identification. JITC does not certify any other configurations, features, or functions, except those cited in this memorandum, or authorized by the Program Management Office. This certification extension expires upon changes that affect interoperability, but no later than three years from 20 April 2011; which is the date the DISA Certifying Authority (CA) provided a positive Recommendation.

3. JITC approves the extension of this certification for DTR 13 for TN 1009101 and DTR 12 for TN 1020101 submitted to include AE Services (Large System) Release 6.2. These DTR requests required interoperability and Information Assurance (IA) verification and validation (V&V) testing. JITC conducted V&V testing for these DTRs from 13 through 24 August 2012. The AE Services (Large System) platform provides third party call control through the Telephony Services Application Programming Interface (TSAPI) to complete the following actions: adjunct routing of incoming calls, report various events to an adjunct, provide notification/control for a specific station/call, perform adjunct invocation of switch features, and respond to adjunct

queries for information. Table 1 lists the SUT test configuration that includes the AE Services (Large System) server. The AE Services (Large System) was tested in conjunction with the Amcom Personal Computer/Public Safety Answering Point (PC/PSAP™) version 11.9.0.301 and no interoperability findings were discovered. The SUT is certified with AE Services (Large System) Release 6.2. It is also certified for use with any product on the Unified Capabilities (UC) Approved Products List (APL) that is certified with AE Services (Large System) Release 6.2 through the TSAPI. Figure 1 depicts the SUT diagram including the AE Services (Large System) server and the Amcom PC/PSAP™. The DISA CA provided a positive recommendation for these DTRs on 11 December 2012, based on the security testing completed DISA-led IA test teams and published in a separate report, Reference (h). Therefore, JITC approves these DTRs.

Table 1. SUT Tested System Configurations

Component	Hardware	OS/Software		Firmware/Software
Avaya Aura CM 6.0.1 (00.1.510.1 Service Pack 19211)	CMM (IPv4 & IPv6)	Core	CentOS	5.4
		Virtual Controller	XEN Hypervisor	3.4.2
		Virtual Machine	CDOM CentOS	5.4
			Tomcat	6.0.29
		Virtual Machine	CMM Redhat Linux	5.3
			Apache	2.2.3
	Avaya S8800, HP DL360 G7[1] CM SVR-1 (IPv4 & IPv6)	Core	CentOS	5.4
		Virtual Controller	XEN Hypervisor	3.4.2
		Virtual Machine	CDOM CentOS	5.4
			Tomcat	6.0.29
		Virtual Machine	Redhat Linux	5.3
			Apache	2.2.3
	Avaya S8800, HP DL360 G7[1] CM SVR-2 (IPv4 & IPv6)	Core	CentOS	5.4
		Virtual Controller	XEN Hypervisor	3.4.2
		Virtual Machine	CDOM CentOS	5.4
			Tomcat	6.0.29
		Virtual Machine	Redhat Linux	5.3
			Apache	2.2.3
	Avaya S8800, HP DL360 G7[1] CM Surv Core-1 (IPv4 & IPv6)	Core	CentOS	5.4
		Virtual Controller	XEN Hypervisor	3.4.2
		Virtual Machine	CDOM CentOS	5.4
			Tomcat	6.0.29
		Virtual Machine	Redhat Linux	5.3
			Apache	2.2.3
	Avaya S8800, HP DL360 G7[1] CM Surv Core-2 (IPv4 & IPv6)	Core	CentOS	5.4
		Virtual Controller	XEN Hypervisor	3.4.2
		Virtual Machine	CDOM CentOS	5.4
			Tomcat	6.0.29
		Virtual Machine	Redhat Linux	5.3
			Apache	2.2.3
	G450-1 (IPv4 and IPv6)	MM710	VxWorks 6.8 Firmware g450_sw_31_17_2	HW11, FW050
		MM712		HW07, FW011
		MM716		HW06, FW094
		MM720		HW06, FW08
	G450-2 (IPv4 and IPv6)	MM710	VxWorks 6.8 Firmware g450_sw_31_17_2	HW11, FW050
		MM711		HW33, FW094
		MM717		HW11, FW05
		MM720		HW06, FW08
	G450-3 (IPv4 and IPv6)	MM710	VxWorks 6.8 Firmware g450_sw_31_17_2	HW11, FW050
		MM716		HW06, FW094
		MM717		HW05, FW011

Table 1. SUT Tested System Configurations (continued)

Component	Hardware	OS/Software		Firmware/Software
Avaya Aura CM 6.0.1 (00.1.510.1 Service Pack 19211) (continued)	G650-1 (IPv4 Only) [2]	TN2312BP	N/A	HW36, FW050
		TN799DP		HW16, FW037
		TN793CP		HW17, FW010
		TN2224CP		HW11, FW05
		TN2602AP		HW28, FW054
		TN464HP		HW04, FW019
		TN464HP		HW13, FW024
		TN464HP		HW13, FW024
	G650-2 (IPv4 Only) [2]	TN2312BP	N/A	HW36, FW050
		TN799DP		HW16, FW037
		TN793CP		HW17, FW010
		TN2602AP		HW28, FW010
		TN464GP		HW06, FW019
		TN464GP		HW13, FW024
		TN464GP		HW13, FW024
	Avaya Site Administration-1 (IPv4 Only)	Windows XP SP3	Avaya Site Administration	4.0
			Version	4.0.12
	Avaya Site Administration-2 (IPv4 Only)	Windows Vista SP2	Avaya Site Administration	6.0
			Version	6.0.07
	Softphone-2 (IPv4 Only)	Windows XP SP3	Avaya One-X Communicator	R5.2300-SP3-22584
			Product Version	5.2.0.8
			Signaling Protocol	H.323
	Softphone-1 (IPv4 Only)	Windows Vista SP2	Avaya One-X Communicator	R5.2300-SP3-22584
			Product Version	5.2.0.18
			Signaling Protocol	H.323
	AE Services (Large System) Server[3] (Dell R610)	Red Hat Enterprise Linux 5.7	AE Services	AE Services 6.2.0.0.18

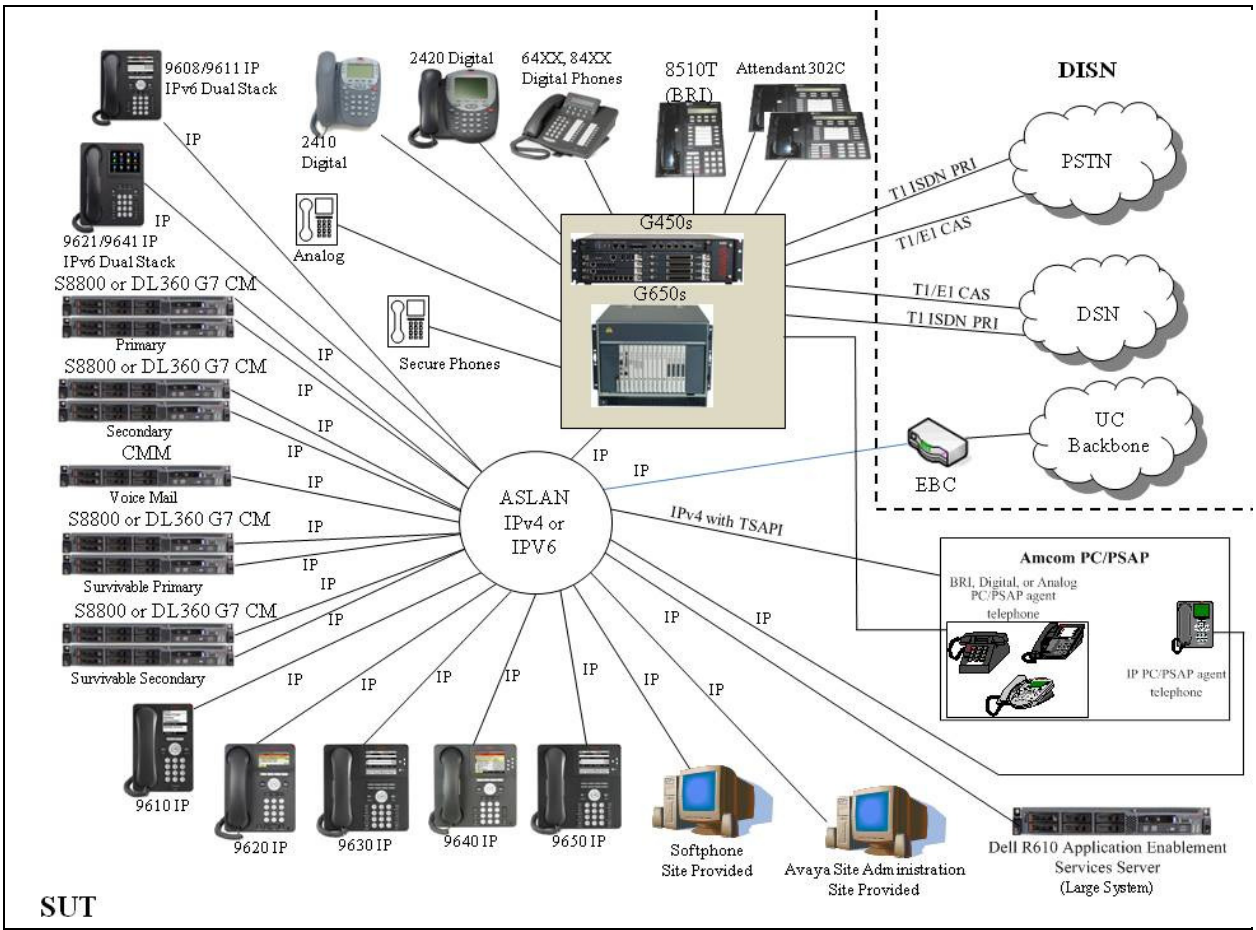
Telephones, Voicemail, and Conference Bridge Components		
Interface Type	**Model**	**Firmware**
H.323 IPv4 & IPv6	9641, 9621	S9621_41HALBR6_0_16T_V452.var
H.323 IPv4 & IPv6	9608, 9611	S9608_11HALBR6_0_16T_V452.var
H.323 IPv4 Only	9610	ha96xxua3_0_21r02St.bin
H.323 IPv4 Only	9620, 9620L, 9620C	ha96xxua3_0_21r02St.bin
H.323 IPv4 Only	9630	ha96xxua3_0_21r02St.bin
H.323 IPv4 Only	9640	ha96xxua3_0_21r02St.bin
H.323 IPv4 Only	9650	ha96xxua3_0_21r02St.bin
Secure Phones (Analog)	GD ViPer (PSTN)	2.12
	GD Sectera Wireline Terminal	12.05
	L3 Omni	6.01
	L3 STE	2.7
Secure Phone (BRI)	L3 STE	2.7
2-Wire Analog	Panasonic KX-TS15-W	NA
2-Wire Digital Proprietary	6402D, 2420, 6408D, 6416D+M, 6402, 8410D	NA
Attendant Console	302C	NA
ISDN BRI	Avaya 8510T	NA
	Tone Commander phones : 6210U, 6210T, 6220U, 6220T, and 6220T TSG	01.07.22

NOTES:
1. The SUT was tested with the Avaya S8800 Core server. JITC analysis determined that the Hewlett Packard DL-360 G7 is exactly the same as the S8800 Core servers with the exception of a faster central processing unit and it is similar to the S8800 for interoperability purposes and it is also certified for joint use.
2. The SUT G650 gateways are IPv4 only. The G450 gateways provided IPv4 to IPv6 intra- and inter-switch translations between dual stack phones and components and non IPv6 components.
3. The AE Services (Large System) server was added in DTR 13 for TN 1009101 and DTR 12 for TN 1020101.

Table 1. SUT Tested System Configurations (Continued)

LEGEND:

AE	Application Enablement	MM	Media Module
CM	Communication Manager	OS	Operating System
CMM	Communication Manager Messenger	SP	Service Pack
DTR	Desktop Review	SUT	System Under Test
FW	Firmware	Surv	Survivability
G	Gateway	SVR	Server
HW	Hardware	TN	Tracking Number
IP	Internet Protocol		



LEGEND:

ASLAN	Assured Services Local Area Network	Mbps	Megabits per second
CAS	Channel Associated Signaling	PSTN	Public Switch Telephone Network
CM	Communication Manager	PRI	Primary Rate Interface
DISN	Defense Information System Network	SUT	System Under Test
DSN	Defense Switched Network	T1	Digital Transmission Link Level 1 (1.544 Mbps)
EBC	Edge Boundary Controller	TSAPI	Telephony Services Application Programming Interface
G	Gateway	UC	Unified Capabilities
IP	Internet Protocol		

Figure 1. SUT Test Configuration

4. Table 2 lists the interfaces, Capability Requirements (CR), Functional Requirements (FR), and component status of the SUT. The threshold CR/FRs for LSCs and SMEOs, with the exception of SMEO NM requirements which are found in UCR 2008, Section 5.2.8, are established by Sections 5.3.2, 5.3.4, 5.3.5, and 5.4 of Reference (d) – (f) and were used to evaluate the interoperability of the SUT.

Table 2. SUT Interface Interoperability Status

Interface	Critical	UCR Reference	Threshold CR/FR[1]	Status	Remarks[2]
Line Interfaces					
10Base-X	Yes	5.3.2.6.3	1, 2, 3, 4, 10, 13, and 16	Certified	SUT met threshold CRs/FRs for IEEE 802.3i and 802.3j. Applies to PEIs (voice) and Softphone (voice).
100Base-X	Yes	5.3.2.6.3	1, 2, 3, 4, 10, 13, and 16	Certified	SUT met threshold CRs/FRs for IEEE 802.3u with the SUT PEIs.
Ethernet IEEE 802.3u (with TSAPI)	No	5.3.2.6.3	1, 17, 18	Certified	See note 3.
1000Base-X	No	5.3.2.6.3	1, 2, 3, 4, 10,13, and 16	Not Tested	This interface is not offered by the SUT PEIs.
2-wire analog	Yes	5.3.2.6.1.6	1, 2, 3, 4, 10, and 13	Certified	SUT met threshold CRs/FRs for 2-wire analog interfaces.
ISDN BRI[4]	No	5.3.2.6.1.8	1, 2, 3, 4, 10, and 13	Certified	SUT met threshold CRs/FRs for BRI interface with the.
Digital Proprietary	No	5.2	1, 2, 3, 4, 10, and 13	Certified	SUT met threshold CRs/FRs for Digital Proprietary interface.
External Interfaces					
10Base-X	No	5.3.2.4.2	1, 2, 3, 6, 7, 8, 10, 11, 13, 15, and 16	Certified	Met threshold CRs/FRs for IEEE 802.3i and 802.3j for the AS-SIP trunk.
100Base-X	No	5.3.2.4.2	1, 2, 3, 6, 7, 8, 10, 11, 13, 15, and 16	Certified	Met threshold CRs/FRs for IEEE 802.3u for the AS-SIP trunk.
1000Base-X	No	5.3.2.4.2	1, 2, 3, 6, 7, 8, 10, 11, 13, 15, and 16	Not Tested	This interface is not offered by the SUT.
ISDN T1 PRI ANSI T1.619a	Yes	5.3.2.4.3	2, 3, 7, 8, 10, and 13	Certified	Met threshold CRs/FRs. This interface provides legacy DSN and TELEPORT connectivity.
ISDN T1 PRI NI-2	Yes	5.3.2.4.3	2, 3, 7, 8, 10, and 13	Certified	Met threshold CRs/FRs. This interface provides PSTN connectivity.
T1 CCS7 ANSI T1.619a	No	5.3.2.12.9	2 , 3, 7, 8, 10, and 13	Not Tested	This interface is not offered by the SUT.
T1 CAS (DTMF[4], MFR1)	No	5.3.2.12.11	2, 3, 7, 8, 10, and 13	Certified	Met threshold CRs/FRs. This interface provides legacy DSN and TELEPORT connectivity with DTMF (Standard, ABCD) and Multifrequency R1 digit formats.
E1 CAS	No (LSC), Yes (SMEO)	5.3.2.12.11	2, 3, 7, 8, 10, and 13	Certified	Met threshold CRs/FRs and met interface criteria for T1 CAS with MLPP.
E1 PRI[5] ITU-T Q.955.3	No	5.3.2.12.10	2, 3, 7, 8, 10, and 13	Not Tested	Although this interface is offered by the SUT, it was not tested. This interface is not certified by JITC and is not required for an LSC.
E1 PRI[5] ITU-T Q.931	No	5.3.2.12.10	2, 3, 7, 8, 10, and 13	Not Tested	Although this interface is offered by the SUT, it was not tested. This interface is not certified by JITC and is not required for an LSC.

Table 2. SUT Interface Interoperability Status (Continued)

Interface	Critical	UCR Reference	Threshold CR/FR[1]	Status	Remarks[2]
Network Management Interfaces					
10Base-X	No[6]	5.3.2.4.4 5.3.2.7.2.8	16, 17, and 18[7]	Certified	Met threshold CRs/FRs. Verified via LoC.
100Base-X	No[6]	5.3.2.4.4 5.3.2.7.2.8	16, 17, and 18[7]	Certified	Met threshold CRs/FRs. Verified via LoC.

NOTES:
1. The SUT high-level CR and FR ID numbers depicted in the Threshold CRs/FRs column can be cross-referenced in Table 2. These high-level CR/FR requirements refer to a detailed list of requirements provided in References (d) – (f).
2. Detailed information pertaining to open TDRs and associated operational impacts is in Reference (c).
3. The AE Services (Large System) platform provides third party call control through the TSAPI to complete the following actions: adjunct routing of incoming calls, report various events to an adjunct, provide notification/control for a specific station/call, perform adjunct invocation of switch features, and respond to adjunct queries for information. The AE Services (Large System) was tested in conjunction with the Amcom PC/PSAP™ version 11.9.0.301 and no interoperability findings were discovered. The SUT is certified with AE Services (Large System) Release 6.2. It is also certified for use with any product on the UC APL that is certified with AE Services (Large System) Release 6.2 through the TSAPI. This interface and functionality was included with DTR 13 for TN 1009101 and DTR 12 for TN 1020101.
4. This interface is required only for a SMEO.
5. This interface is required for only for Europe deployment.
6. The SUT must provide a minimum of one of the following NM interfaces: 10Base-X or 100Base-X.
7. These NM CRs and FRs are required only for SMEO.

LEGEND:

10Base-X	10 Mbps Ethernet
100Base-X	100 Mbps Ethernet
1000Base-X	1000 Mbps Ethernet
802.3i	10 Mbps twisted pair media for 10Base-X networks
802.3j	10 Mbps fiber media for 10Base-X networks
802.3u	100BASE-TX, 100BASE-T4, 100BASE-FX Fast Ethernet at 100 Mbps with auto negotiation
AE	Application Enablement
ANSI	American National Standards Institute
APL	Approved Products List
AS-SIP	Assured Services Session Initiation Protocol
BRI	Basic Rate Interface
CAS	Channel Associated Signaling
CCS7	Common Channel Signaling 7
CR	Capability Requirement
DSN	Defense Switched Network
DTMF	Dual Tone Multi-Frequency
DTR	Desktop Review
E1	European Basic Multiplex Rate (2.048 Mbps)
FR	Functional Requirement
IAD	Integrated Access Device
ID	Identification
IEEE	Institute of Electrical and Electronics Engineers
ISDN	Integrated Services Digital Network
ITU-T	International Telecommunication Union – Telecommunication Standardization Sector
JITC	Joint Interoperability Test Command
LoC	Letter of Compliance
LSC	Local Session Controller
Mbps	Megabits per second
MLPP	Multi-Level Precedence and Preemption
NI-2	National ISDN Standard 2
NM	Network Management
PC/PSAP	Personal Computer/Public Safety Answering Point
PEI	Proprietary End Instrument
PRI	Primary Rate Interface
PSTN	Public Switched Telephone Network
Q.931	Signaling Standard for ISDN
Q.955.3	ISDN Signaling Standard for E1 MLPP
SMEO	Small End Office
SS7	Signaling System 7
SUT	System Under Test
T1	Digital Transmission Link Level 1 (1.544 Mbps)
T1.619a	SS7 and ISDN MLPP Signaling Standard for T1
TDR	Test Discrepancy Report
TN	Tracking Number
TSAPI	Telephony Services Application Programming Interface
UC	Unified Capabilities
UCR	Unified Capabilities Requirements

Table 3. SUT CR and FR Status

CR/FR ID	Capability/ Function	Applicability[1]	UCR Reference	Status	Remarks
1	**Assured Services Product Features and Capabilities**				
	DSCP Packet Marking	Required	5.3.2.2.1.4	Met	
	Voice Features and Capabilities	Required	5.3.2.2.2.1	Met	
	Public Safety Features	Required	5.3.2.2.2.2	Met	
	ASAC – Open Loop	Required	5.3.2.2.2.3	Met	
	Signaling Protocols	Required	5.3.2.2.2.3	Met	
	Signaling Performance	Required	5.3.2.2.2.4	Met	
2	**Registration, Authentication, and Failover**				
	Registration	Required	5.3.2.3.1	Met	
	Failover	Required	5.3.2.3.2	Met	
3	**Product Physical, Quality, and Environmental Factors**				
	Availability	Required	5.3.2.5.2.1	Met	
	Maximum Downtimes	Required	5.3.2.5.2.2	Met	
	Loss of Packets	Required	5.3.2.5.4	Met	
4	**Voice End Instruments**				
	Tones and Announcements	Required	5.3.2.6.1.1	Met	
	Audio Codecs	Conditional[2]	5.3.2.6.1.2	Partially Met[2]	
	VoIP PEI or AEI Audio Performance Requirements	Required	5.3.2.6.1.3	Met[3]	
	VoIP Sampling Standard	Required	5.3.2.6.1.4	Met	
	Authentication to LSC	Required	5.3.2.6.1.5	Met	
	Analog Telephone Support	Required	5.3.2.6.1.6	Met	
	Softphones	Conditional	5.3.2.6.1.7	Met	
	ISDN BRI	Conditional	5.3.2.6.1.8	Met	
5	**Video End Instruments**				
	Video End Instrument	Required	5.3.2.6.2	Not Tested[4]	
	Display Messages, Tones, and Announcements	Required	5.3.2.6.2.1	Not Tested[4]	
	Video Codecs (Including Associated Audio Codecs)	Required	5.3.2.6.2.2	Not Tested[4]	
6	**LSC Requirements**				
	PBAS/ASAC Requirements	Required	5.3.2.7.2.1	Met	
	Calling Number Delivery Requirements	Required	5.3.2.7.2.2	Met	
	LSC Signaling Requirements	Required	5.3.2.7.2.3	Met	
	Service Requirements under Total Loss of WAN Transport	Required	5.3.2.7.2.4	Met	
	Local Location Server and Directory	Required	5.3.2.7.2.5	Met	
	LSC Transport Interface Functions	Required	5.3.2.7.2.7	Met	
	LSC to PEI, AEI, and Operator Console Status Verification	Required	5.3.2.7.2.10	Partially Met[5]	
	Line-Side Custom Features Interference	Conditional	5.3.2.7.2.11	Met	
	Loop Avoidance	Required	5.3.2.7.3	Met	

Table 3. SUT CR and FR Status (continued)

CR/FR ID	Capability/ Function	Applicability[1]	UCR Reference	Status	Remarks
7	**Call Connection Agent Requirements**				
	CCA IWF Component	Required	5.3.2.9.2.1	Met	
	CCA MGC Component	Required	5.3.2.9.2.2	Met	
	SG Component	Conditional	5.3.2.9.2.3	Not Tested[6]	
	CCA-IWF Support for AS-SIP	Required	5.3.2.9.5.1	Met	
	CCA-IWF Support for SS7	Conditional	5.3.2.9.5.2	Not Tested[6]	
	CCA-IWF Support for PRI via MG	Required	5.3.2.9.5.3	Met	
	CCA-IWF Support for CAS Trunks via MG	Conditional	5.3.2.9.5.4	Partially Met[7]	
	CCA-IWF Support for PEI and AEI Signaling Protocols	Required	5.3.2.9.5.5	Met[3]	
	CCA-IWF Support for VoIP and TDM Protocol Interworking	Required	5.3.2.9.5.6	Met	
	CCA Preservation of Call Ringing State during Failure Conditions	Required	5.3.2.9.6	Met	
	CCA Interactions with Transport Interface Functions	Required	5.3.2.10.3	Met	
	CCA Interactions with the EBC	Required	5.3.2.10.4	Met	
	CCA Support for Admission Control	Required	5.3.2.10.5	Met	
	CCA Support for UFS	Required	5.3.2.10.6	Met	
	CCA Support for IA	Required	5.3.2.10.7	Met	IA is covered under separate report.
	CCA Interaction with EIs	Required	5.3.2.10.10	Partially Met[3]	
	CCA Support for AS Voice and Video	Required	5.3.2.10.11	Partially Met[4]	
	CCA Interactions with Service Control Functions	Required	5.3.2.10.12	Met	
	CCA Interworking between AS-SIP and SS7	Conditional	5.3.2.11	Not Tested[6]	
8	**MG Requirements**				
	Role of MG In LSC	Required	5.3.2.12.3.1	Met	
	MG Support for ASAC	Required	5.3.2.12.4.1	Met	
	MG and IA Functions	Required	5.3.2.12.4.2	Met	IA is covered under separate report.
	MG Interaction with Service Control Function	Required	5.3.2.12.4.3	Met	
	MG Interactions with IP Transport Interface Functions	Required	5.3.2.12.4.4	Met	
	MG-EBC interactions	Required	5.3.2.12.4.5	Met	
	MG IP-Based PSTN Interface Requirements	Conditional	5.3.2.12.4.7	Not Tested[6]	
	MG Interaction with EIs	Required	5.3.2.12.4.8	Met	
	MG support for User Features and Services	Required	5.3.2.12.4.9	Met	
	MG Interface to TDM	Required	5.3.2.12.5	Met	
	MG Interface to TDM Allied and Coalition	Conditional	5.3.2.12.6	Not Tested[6]	
	MG Interface to TDM PSTN in U.S.	Required	5.3.2.12.7	Met	
	MG Interfaces to TDM PSTN OCONUS	Required	5.3.2.12.8	Not Met[8]	
	MG Support for CCS7	Conditional	5.3.2.12.9	Not Tested[6]	
	MG Support for ISDN PRI Trunks	Required	5.3.2.12.10	Met	

Table 3. SUT CR and FR Status (continued)

CR/FR ID	Capability/ Function	Applicability[1]	UCR Reference	Status	Remarks
8	**MG Requirements (continued)**				
	MG Support for CAS Trunks	Required	5.3.2.12.11	Partially Met[7]	
	MG requirements for VoIP Internal Interfaces	Required	5.3.2.12.12	Met	
	MG Echo Cancellation	Required	5.3.2.12.13	Met	
	MG Clock Timing	Required	5.3.2.12.14	Met	
	MGC-MG CCA Functions	Required	5.3.2.12.15	Met	
	MG ITU-T V.150.1	Required	5.3.2.12.16	Not Met[9]	
	MG Preservation of Call Ringing during Failure	Required	5.3.2.12.17	Met	
9	**SG Requirements**				
	SG and CCS7 Network Interactions	Conditional	5.3.2.13.5.1	Not Tested[7]	
	SG Interactions with CCA	Conditional	5.3.2.13.5.2	Not Tested[7]	
	SG Interworking Functions	Conditional	5.3.2.13.5.3	Not Tested[7]	
10	**WWNDP Requirements**				
	WWNDP	Required	5.3.2.16	Met	
	DSN WWNDP	Required	5.3.2.16.1	Met	
11	**Commercial Cost Avoidance**				
	Commercial Cost Avoidance	Required	5.3.2.23	Not Met[10]	
12	**AS-SIP Based for External Devices (Voicemail, Unified Messaging, and Automated Receiving Devices)**				
	AS-SIP Requirements for External Interfaces	Conditional	5.3.2.24	Met[11]	
13	**Precedence Call Diversion**				
	Precedence call Diversion	Required	5.3.2.25	Met	
14	**Attendant Station Features**				
	Precedence and Preemption	Required	5.3.2.26.1	Met	
	Call Display	Required	5.3.2.26.2	Met	
	Class of Service Override	Required	5.3.2.26.3	Met	
	Busy Override and Busy Verification	Required	5.3.2.26.4	Met	
	Night service	Required	5.3.2.26.5	Met	
	Automatic Recall of Attendant	Required	5.3.2.26.6	Met	
	Calls in Queue to the Attendant	Required	5.3.2.26.7	Met	
15	**AS-SIP Requirements**				
	SIP Requirements for AS-SIP Signaling Appliances and AS-SIP Eis	Required	5.3.4.7	Met	
	SIP Session Keep-Alive Timer	Required	5.3.4.8	Met	
	Session Description Protocol	Required	5.3.4.9	Met	
	Precedence and Preemption	Required	5.3.4.10	Met	
	Video Telephony – General Rules	Required	5.3.4.12	Not Met[4]	
	Calling Services	Required	5.3.4.13	Partially Met[12]	
	SIP Translation Requirements for Inter-working AS-SIP Signaling Appliances	Required	5.3.4.14	Met	
	Relevant Timers for the Terminating Gateway and the Originating Gateway	Required	5.3.4.15	Met	
	SIP Requirements for Interworking AS-SIP Signaling Appliances	Required	5.3.4.16	Met	
	Keep-Alive Timer Requirements for Interworking AS-SIP Signaling Appliances	Required	5.3.4.17	Met	
	Precedence and Preemption Extensions for Interworking AS-SIP Signaling Appliances	Required	5.3.4.18	Met	
	Supplementary Services	Required	5.3.4.19	Partially Met[12]	

Table 3. SUT CR and FR Status (continued)

CR/FR ID	Capability/ Function	Applicability (See note 1.)	UCR Reference	Status	Remarks
16	**IPv6 Requirements**				
	Product Requirements	Required	5.3.5.4	Met	G450 supports IPv4/v6 dual stack. G650 supports IPv4 only.
17	**NM Requirements (LSC)**				
	LSC Management Function	Required	5.3.2.7.2.6	Met	
	VVoIP NMS Interface Requirements	Required	5.3.2.4.4	Met	
	General Management requirements	Required	5.3.2.17.2	Met	
	Requirement for FCAPS Management	Required	5.3.2.17.3	Partially Met[13]	
	NM requirements of Appliance Functions	Required	5.3.2.18	Met	
	Accounting Management	Required	5.3.2.19	Partially Met[14]	
18	**NM Requirements (SMEO)**				
	Physical Interface to ADIMSS	Required	5.2.8.1	Met	SUT requirement was met with an IEEE 8.02.3u Ethernet Interface.
	Measurements and Data Generation	Required	5.2.8.2	Met	
	Fault Management	Required	5.2.8.3	Met	
	Configuration Management	Required	5.2.8.4	Met	
	Automated Message Accounting	Required	5.2.8.5	Met	
	Performance Management	Required	5.2.8.6	Met	

NOTES:
1. The annotation of 'required' refers to a high-level requirement category. The applicability of each sub-requirement is provided in Enclosure 1, Reference (d) – (f).
2. The SUT Media Gateway and CCA do not support the ITU-T G.723.1 codec. This requirement was changed in UCR 2008 change 2 from required to conditional with an immediate applicability.
3. The SUT met the requirement for ITU-T H.323 PEIs, but did not meet requirements for an AEI because none were provided. The SUT was tested to UCR 2008 change 1 requirements and since the AEI requirements are new, vendor has 18 months to comply (July 2011).
4. The SUT supports Legacy H.320 video with ISDN PRI and BRI interfaces; however, it does not support IP video PEI or AEI EIs. This was adjudicated by DISA to have a minor operational impact because of the limited deployment of IP video.
5. The SUT LSC to PEI, AEI and Operator Console Status Verification do not support a default set of 5mintues. The SUT default is 20 every 20 seconds but is configurable up to 2 hours. This was adjudicated by DISA as having a minor operational impact with the recommendation to change this requirement to remove the default value as long as it is configurable.
6. The SUT met the IWF requirements with the T1 PRI interfaces and T1/E1 CAS. The SUT does not support SS7 or IP based PSTN interfaces which are not required for an LSC.
7. The SUT met all critical T1 CAS interface requirements with the following exceptions adjudicated by DISA as having a minor operational impact with no POA&M to fix it:
   - The SUT acknowledges a wink start signal greater than 350 ms. The SUT recognizes wink start signals up to 395 ms.
   - The SUT preempt signal is out of tolerance. The SUT generates a preempt signal from 336 to 339 ms. The requirement is 340 to 350 ms.

   Since all switches acknowledge the preempt signal from 328 to 363 ms there is no impact.
8. The SUT offers an E1 ETSI ISDN PRI interface however it was not tested and is not covered under this certification. The E1 ETSI ISDN PRI interface is required only for deployment in Europe. The SUT does support the conditional E1 CAS interface for Europe, and therefore the SUT is not certified for deployment in Europe.
9. The vendor submitted a LoC stating that the SUT does not support ITU-T V.150.1 Vendor submitted a POA&M and plans to support this feature in the next major CM release for July 2012. ITU-T V.150.1 is a new UCR 2008 change 1 requirement and the vendor has 18 months (July 2011) to comply.
10. The SUT do not support Commercial Cost Avoidance with the DISN RTS Routing Database or LDAP Version 3 messages for a Database Query. This is a new UCR 2008 change 1 requirement and the vendor has 18 months (July 2011) to comply. Vendor submitted a POA&M stating plans to support this feature in the next major CM release for May 2012; however DISA stipulated that they would need to see the vendor comply by September 2011.
11. The SUT met this requirement with the Communication Manager Messaging Voice Mail System which is listed separately on the UC APL.

Table 3. SUT CR and FR Status (continued)

NOTES:

12. The SUT met the UCR Supplementary Services and Calling Services Requirements with the following exceptions adjudicated by DISA as having a minor operational impact with a Vendor POA&M to fix in next major CM release for July 2012:
    - Call Forwarded calls above ROUTINE ring the destination at ROUTINE cadence although the precedence level is maintained.
    - Unattended Call Transfers to the Avaya AS5300 @ precedence above ROUTINE are class marked at ROUTINE.
    - Instruments assigned the Hotline Feature cannot restrict other features (i.e. Hold, Transfer, Add hock Conferencing, etc.)
    - SUT plays Precedence Notification Tone (PNT) to an active user for only 3 seconds. The requirement is indefinite or until user hangs up.
13. The SUT met the NM requirements in accordance with UCR 2008 Change 1 Section 5.3.2.17.3 with the following exception: The SUT does not have the ability to limit calls to a destination based on percentage of calls based on vendors LoC. This discrepancy was adjudicated by DISA as having a minor operational impact with a vendor POA&M to fix in May 2012.
14. The SUT met the NM requirements in accordance with UCR 2008 Change 1 Section 5.3.2.19 with the following exceptions stipulated in the vendor's LoC which were adjudicated by DISA as having a minor operational impact with a vendor POA&M to fix in May 2012.
    - Does Not Comply with E-Model MOS in the Call Detail Record (CDR) Requirements
    - Does Not Support the Equipment Impairment Factor (Ie) and the TCLw.
    - Does Not Generate Alarms to the VVoIP EMS when E-Model R-factor record in CDR is not met.
    - Does not provide a CDR with the R-Factor and associated raw statistics

LEGEND:

ADIMSS	Advanced DSN Integrated Management Support System	kbps	kilobits per second
AEI	AS-SIP End Instrument	LoC	Letter of Compliance
APL	Approved Products List	LSC	Local Session Controller
AS	Assured Services	Mbps	Megabits per second
ASAC	Assured Services Admission Control	MG	Media Gateway
AS-SIP	Assured Services Session Initiation Protocol	MGC	Media Gateway Controller
BRI	Basic Rate Interface	NM	Network Management
CAS	Channel Associated Signaling	NMS	Network Management System
CCA	Call Connection Agent	OCONUS	Outside the Continental United States
CR	Capability Requirement	PBAS	Precedence Based Assured Services
CCS7	Common Channel Signaling	PCM	Pulse Code Modulation
DISA	Defense Information Systems Agency	PEI	Proprietary End Instrument
DSCP	Differentiated Services Code Point	POA&M	Plan of Action and Milestones
DSN	Defense Switched Network	PRI	Primary Rate Interface
EBC	Edge Boundary Controller	PSTN	Public Switched Telephone Network
EI	End Instrument	SG	Signaling Gateway
FCAPS	Fault, Configuration, Accounting, Performance and Security	SIP	Session Initiation Protocol
		SNMPv3	Simple Network Management Protocol version 3
FR	Functional Requirement	SS7	Signaling System 7
G.711	PCM of voice frequencies	SUT	System Under Test
IA	Information Assurance	T1	Digital Transmission Link Level 1 (1.544 Mbps)
IP	Internet Protocol	TDM	Time Division Multiplexing
ID	Identification	UC	Unified Capabilities
ISDN	Integrated Services Digital Network	UCR	Unified Capabilities Requirements
IP	Internet Protocol	UFS	User Features and Services
IPv4	Internet Protocol version 4	U.S.	United States
IPv6	Internet Protocol version 6	V.150	Modem over Internet Protocol Networks
ITU-T	International Telecommunication Union - Telecommunication Standardization Sector	VoIP	Voice over Internet Protocol
		VVoIP	Voice and Video over Internet Protocol
IWF	Interworking Function	WAN	Wide Area Network
		WWNDP	Worldwide Numbering and Dialing Plan

5. No detailed test report was developed in accordance with the Program Manager's request. JITC distributes interoperability information via the JITC Electronic Report Distribution (ERD) system, which uses Unclassified-But-Sensitive Internet Protocol Router Network (NIPRNet) e-mail. More comprehensive interoperability status information is available via the JITC System Tracking Program (STP). The STP is accessible by .mil/gov users on the NIPRNet at https://stp.fhu.disa.mil. Test reports, lessons learned, and related testing documents and

references are on the JITC Joint Interoperability Tool (JIT) at http://jit.fhu.disa.mil (NIPRNet). Information related to DSN testing is on the Telecom Switched Services Interoperability (TSSI) website at http://jitc.fhu.disa.mil/tssi. All associated data is available on the DISA Unified Capability Coordination Office (UCCO) website located at http://www.disa.mil/ucco/.

6. The JITC point of contact is Capt Stéphane Arsenault, DSN 879-5269, commercial (520) 538-5269, FAX DSN 879-4347, or e-mail to Stephane.P.Arsenault.fm@mail.mil. JITC's mailing address is P.O. Box 12798, Fort Huachuca, AZ 85670-2798. The UCCO tracking number for the SUT as an LSC is 1009101 and as a SMEO is 1020101.

FOR THE COMMANDER:

Enclosure a/s

for BRADLEY A. CLARK
Acting Chief
Battlespace Communications Portfolio

Distribution (electronic mail):
DoD CIO
Joint Staff J-6, JCS
USD(AT&L)
ISG Secretariat, DISA, JTA
U.S. Strategic Command, J665
US Navy, OPNAV N2/N6FP12
US Army, DA-OSA, CIO/G-6 ASA(ALT), SAIS-IOQ
US Air Force, A3CNN/A6CNN
US Marine Corps, MARCORSYSCOM, SIAT, A&CE Division
US Coast Guard, CG-64
DISA/TEMC
DIA, Office of the Acquisition Executive
NSG Interoperability Assessment Team
DOT&E, Netcentric Systems and Naval Warfare
Medical Health Systems, JMIS IV&V
HQUSAISEC, AMSEL-IE-IS
UCCO

ADDITIONAL REFERENCES

(c) Joint Interoperability Test Command, "Special Interoperability Test Certification of the Avaya Aura S8800 and Hewlett Packard (HP) DL-360 G7 with Release (Rel.) Communication Manager (CM) 6.0.1 (00.1.510.1 Service Pack 19211)," 2 September 2011
(d) Office of the Assistant Secretary of Defense, "Department of Defense Unified Capabilities Requirements 2008, Change 1," 22 January 2010
(e) Office of the Assistant Secretary of Defense, "Department of Defense Unified Capabilities Requirements 2008, Change 2," 31 December 2010
(f) Office of the Assistant Secretary of Defense, "Department of Defense Unified Capabilities Requirements 2008," 31 December 2008
(g) Joint Interoperability Test Command, "Unified Capabilities Test Plan (UCTP)," Draft
(h) Joint Interoperability Test Command, "Information Assurance (IA) Assessment of Avaya S8800 and Hewlett Packard (HP) DL-360 G7 Local Session Controller (LSC) with Aura Communication Manager (CM) Release (Rel.) 6.0.1 (Tracking Number 1009101)," 10 January 2012
(i) Joint Interoperability Test Command, "Information Assurance (IA) Assessment of Avaya S8800 and Hewlett Packard (HP) DL-360 G7 Small End Office (SMEO) with Aura Communication Manager (CM) Release (Rel.) 6.0.1, (Tracking Number 1020101)," 28 June 2011
(j) Joint Interoperability Test Command, "Defense Switched Network Generic Switch Test Plan (GSTP), Change 2," 2 October 2006